MEETING SUMMARY

STAKEHOLDER ADVISORY GROUP
SOURCE WATER PROTECTION-ETV PILOT

February 10 – 11, 1999
Baltimore, Maryland

Opening Remarks

Tom Stevens, NSF pilot manager for the Environmental Technology Verification Source Water Protection pilot (SWP), welcomed all participants to the first Stakeholder Advisory Group (SAG) meeting. Mr. Stevens introduced Ray Frederick, of the EPA Urban Watershed Management Branch in Edison, New Jersey, as the EPA Pilot Manager. Self-introductions were made by all present, including the SAG members, other stakeholders and observers, EPA personnel and NSF personnel. Of the 14 member SAG, 13 members and 2 designated alternates were present. In addition to the SAG, 5 EPA personnel, 3 representatives from NSF International, and 20 other stakeholders and observers were present. A complete list of participants is included in Attachment 1. Copies of overheads presented during the meeting are available upon request.

Mr. Stevens then reviewed some procedural matters and outlined the goals for the meeting as follows:

- Familiarize stakeholders with the Pilot purpose, structure and function
- Identify and prioritize SWP technologies for verification
- Agree on critical elements of a test protocol
- Establish an action for protocol development
- Establish the date and location of the next SAG meeting

Overview of the USEPA Environmental Technology Verification Program

Penelope Hansen, Director of EPA's ETV Program, presented the background, history, goals, and principles of the ETV Program administered by the USEPA Office of Research and Development. Ms. Hansen described the basic processes by which the program and its twelve separate ETV pilots function. The criteria of fairness, credibility, transparency and quality were highlighted as key elements of the ETV Program, and that the program is not an approval process. Ms. Hansen indicated that a report will be made to Congress in 2001 in which several questions regarding the need and value of an EPA verification program will be answered. With this short time frame, it was emphasized that this pilot needs to move quickly to meet the goals to be addressed in the report. To date, the most notable outcome of existing pilots has been creation of protocols for testing of technologies, with the outcome of the ETV program being information to meet the needs of permitting officials and purchasing community to provide for more informed decisions, and to expedite market acceptance of vendor technologies. Ms. Hansen indicated that there has been a considerable amount of international interest in the ETV

program, which is expected to continue. She also shared the program's vision of having a fully functioning universe of third-party verification organizations covering all classes of environmental technologies by the year 2005. More information regarding the ETV program in general can be obtained at the ETV homepage at www.epa.gov/etv.

In response to questions raised by SAG members, Ms. Hansen made the following points:

- EPA will follow up on an annual basis to see if verification is fulfilling the objectives of the program.
- Consideration of Operation and Maintenance may require following a two phase verification process, an initial verification followed by an O&M verification after some period of operation. While this may be a critical piece of information, there may be limitations to what can be accomplished given time and budget limitations for the pilot. This is the type of issue that the SAG will need to decide.
- All vendors in a particular technology category will be verified if they are willing to undergo verification testing as well as provide the money required. Some vendors may not want to be tested because, having federal dollars involved, the verification report will be published regardless of the unit's performance.

Introduction to NSF International

For the benefit of those who may not have been familiar with NSF International, Tom Bruursema, General Manager of NSF's Environmental and Research Services, presented an overview of the organization, including its mission, history, and its role in the marketplace. Mr. Bruursema also discussed the differences between verification and certification, which is one of NSF's core business functions. Both are the same with regard to having standardized test methods, independent performance evaluations and preparation of test results. Differences occur in the broad distribution of test reports (verification does, certification does not), having pass/fail criteria (verification does not, certification does) and in policy issues, including audit of manufacturing facilities, periodic retesting, mandatory review of product changes and use of the NSF Mark (verification does not, certification does). More information is available at the NSF International homepage (www.nsf.org)).

Overview of SWP-ETV Pilot

Mr. Stevens presented an overview of the SWP-ETV, including the Pilot structure and objectives. He also outlined the respective roles of NSF International, the Stakeholder Advisory Group and the Technology Panels. The review included a discussion of the July Kick-Off meeting between NSF International and the EPA. During this meeting it was decided that the SWP pilot would extend beyond the original solicitation (i.e. decentralized wastewater treatment) into other areas. This led to the initial formation of a relatively small SAG, selected to incorporate organizations that would have a general interest in source water protection, and with no specific vendor representation. Once the specific technologies to be addressed are identified, additional persons will be added to the SAG to fill areas identified in the meeting as lacking representation, including vendor

representatives. Mr. Stevens also gave recognition to the NSF International partners in the ETV, including the National Onsite Wastewater Recycling Association (NOWRA), the National Small Flows Clearinghouse (NSFC) and the National Environmental Health Association (NEHA).

John Schenk, NSF pilot manager for the ETV Wet Weather Flow Technologies (WWF) pilot, presented a brief overview of that pilot, which is also being managed by NSF International. He discussed the results of the initial SAG meeting, and reviewed the results of the technology prioritization and results to date. Mr. Schenk also presented areas where the two pilot projects might be able to work together, including sharing in protocol development, membership on technology panels, cost for testing, and outreach activities.

Mr. Stevens presented the results of a canvass of the states, which he explained was not a detailed analysis of all needs, but rather a general guide for areas of state concern. Responses were obtained, directly or through Internet access, from 36 states. The major concerns include septic systems, storage tanks, agricultural activities and dumps and landfills. The information will provide a basis for further discussion by the SAG in prioritizing technologies on which the pilot should focus. John Trax offered to conduct a similar survey through the National Rural Water Association, which would represent a slightly different perspective of the issues.

Regulatory Perspective

Maureen Krudner (USEPA - Region II) commented that the SWP pilot will be of great value for alternative technologies, and would provide assistance for water purveyors, grassroots groups, engineers and others involved in watershed management, in addition to the regulatory agencies. She further explained that, under the Safe Drinking Water Act, source water assessment plans were due the first week of February this year. While these plans review the problem, they are not required to identify solutions for control. The SWP pilot could bridge this gap between identification of potential problems and solutions. The verification program will also help with respect to compliance with the Surface Water Treatment Rule by decreasing pollutant loads to the filtration units. Ms. Krudner also indicated that the program will assist the Total Maximum Daily Load (TMDL) program, which requires water bodies not meeting standards to institute plans for reduction of pollutant loading. Lastly, Ms. Krudner feels that the pilot will assist the various States in implementing well-head protection programs. She indicated that the Agency's goal is to have 60 percent of the population be served by public water supplies having complete source water protection programs in place by 2005.

Joyce Hudson (USEPA Office of Wastewater Management) discussed the decentralized wastewater systems program she is involved in within EPA, and how the ETV can be of assistance. She stressed that decentralized systems are not federally regulated, but has gained renewed interest and will be part of the country's waste management program for years to come. Ms. Hudson feels that ETV will help to address decentralized wastewater treatment, once thought to be a temporary solution but now proven to be a critical long

term solution for pollution control. Management and operation and maintenance of such systems will remain of primary importance. EPA receives numerous inquiries from developers of new technology looking for assistance, which could be provided by the ETV program. Ms. Hudson also stressed the importance of disseminating the information to regulators.

Kevin Sherman (Florida Department of Health and Rehabilitative Services) presented a state perspective. He pointed out that Florida has approximately 1.6 million on-site treatment systems, and vendors are consequently very active in the marketplace. Mr. Sherman commented that the establishment of tight standards has not been a problem, as manufacturers have always found a way to bring technologies to the market to meet the standards. He feels that well developed protocols alone will be most beneficial, even without actual verification testing, and that it will boost the comfort level of state officials and reduce redundancy withing the approval process. Mr. Sherman further stressed the importance of evaluating drainfield systems as well as the treatment units themselves. This led to a discussion stressing that various states have different criteria, leading to the need for continual testing and retesting. It is hoped that the ETV will be accepted by the various states, thus minimizing retesting.

Ms. Hansen stressed that it is important to perform verification testing under a broad range of conditions to accomplish this objective. Jim Bell (Smith & Loveless) added that if the cost of the verification testing is low enough, vendors would be able to perform the testing more frequently and thus cover a greater variety of conditions in that manner. Tom Groves (New England Interstate Water Pollution Control Commission) suggested that it is important to involve state agencies through the protocol development process to ensure they buy into the final outcome of the process.

Tony Smithson (Lake County (IL) Health Department) provided the local community perspective. He expressed the concern that there is a lack of recognition by some regulatory officials that there is an existing problem, causing them to avoid the subject. Mr. Smithson added that there are many officials that are inexperienced in this area or have inadequate funding to address the issues. He feels that the ETV may help to convince people that a problem does exist with respect to decentralized systems.

Tony Tafuri (USEPA Urban Watershed Management Branch) stressed the need to be concerned with elements other than onsite treatment systems. Daniel Markowitz (Malcolm Pirnie) cited other potential areas of interest, including drainage systems, stream rehabilitation, and hydrodynamic alteration, representing more non-point sources than treatment systems themselves.

Identification of Source Water Quality Protection Technologies

On the second day, Mr. Stevens reviewed the previous discussions, and presented an exercise planned to aid in prioritizing SWP technologies. The technologies for several vendors that have expressed an interest in participating in the pilot were described and the

discussion of the approach to take in prioritizing technologies proceeded. Comments, which pertained particularly to the decentralized systems, included:

- The Canadian experience showed that it is important to have provincial/state involvement in the protocol development in order to enhance the likelihood of their accepting the final results.
- Many states give no credit for added features, since it is assumed that they will be broken within a short period of time, and thus have no long term effectiveness.
- It may be important to test systems instead of components, in that certain units will perform differently depending on what types of units precede them. It was pointed out that small communities are concerned that what they buy will accomplish the desired objective, and that they are generally concerned with total systems as opposed to individual units. Ms. Hansen replied to this aspect of the discussion by stating that most other ETVs have addressed individual units first, and handled treatment trains after the program is well underway.
- It may be possible to use existing data, reviewed through the ETV program, to indicate the performance of a unit under various site-specific conditions. This would not lead to verification, per se, but may increase the acceptance of units verified under certain conditions.
- The importance of operation and maintenance was stressed. Dick Otis commented that the ETV program is responsible for reliability and consistency of the unit as it is initially placed in operation, and are probably unable to consider O & M in depth within the framework of the ETV.

The discussion revolved around the approach to take with technology prioritization, whether to identify technology areas to develop protocols for and then offer testing, or to solicit vendors and develop protocols in areas where there is vendor interest. A general question was raised by Bill Anderson whether the focus of the pilot is providing an evaluation service for technologies or to promote technologies addressing specific environmental concerns. It was agreed that the objective is to provide a service and that the first effort should be to review contaminants of concern first, followed by identification of technologies suitable for addressing the contaminants.

Mr. Stevens reviewed the list of technologies identified prior to the meeting and the discussion focused on if the SAG had the appropriate representatives to address them all. He commented that the Source Water Protection pilot had expanded beyond the original Request for Assistance, which primarily addressed decentralized wastewater treatment. It was determined that the SAG was best suited to address decentralized wastewater treatment technologies and that additional members would be needed to address other technology areas. New members to address agriculture issues were specifically identified as being needed. The addition of a "grassroots" environmental group representative to the SAG was discussed, with some concern being expressed that the organization may not want to participate or that they might be adversarial. The SAG was asked to further consider this recommendation. Ms. Hansen indicated that it may be possible to form a second advisory group to cover another broad category, e.g. storage and conveyance devices. This is to be considered by NSF and EPA.

Additional technologies were presented for consideration, including sewer rehabilitation, precision agriculture and soil stabilization. Dr. C. Vipulanandan (University of Houston) described the testing they are doing at the University with sewer system rehabilitation, with the potential that protocols and testing facilities exist for this technology area. The general consensus was that sewer rehabilitation belonged in the Wet Weather Flow pilot, and that NSF should examine adding professional expertise to the SAG panel if the others are to be pursued. As an approach, Mr. Tafuri suggested that the non-wastewater related technologies could be addressed by another group with a focus on Conveyance and Storage technologies, which would include sewer rehabilitation. There was general agreement among the SAG that this would be a good approach to pursue. It was decided that at the current time, it is appropriate to prioritize the various elements of decentralized systems.

Prioritization

Prioritization began by identifying a list of wastewater treatment needs by application (domestic, commercial/ institutional, industrial, agricultural feed operations), then identifying the individual treatment categories for each application. A summary of the discussion is included in Attachment 2.

Following the group identification of applications and categories of concern, the SAG was asked to identify specific technologies which should be focused on as a first effort in protocol development. Seven categories of decentralized technology were nominated for consideration, along with oil separation systems. Criteria (shown in Attachment 3) for consideration in prioritizing the technologies were presented, and the members of the SAG, along with the observers, were asked to vote for their three highest priority items. The results were as follows, in order of priority:

- Nutrient removal (17 votes)
- Disinfection (13)
- High strength wastewater treatment (11)
- Package WWTP - > 1500 gpd (8)
- Effluent screens/filters (5)
- Oil separation (4)
- Pump vault system (2)
- Tank leaks/sealants (2)

It was agreed to proceed with development of protocols for the top three or four identified technologies. The role of the SAG in relation to Technology Panels was discussed, with the SAG member acting as the chair of the Panel. Volunteers were solicited to serve on Technology Panels, with one volunteer - Kevin Sherman for High Strength Waste. Concern for the time commitment of the SAG member to work on the Panel, particularly as the chair, was a main reason for the low response. NSF will continue to solicit memberships for the various committees and consider options (one being NSF coordination of Tech. Panel activities) to reduce the time commitment required for SAG participants on Technology Panels.

It was agreed that NSF will act as the chair for future meetings of the SAG. It was also agreed that the next meeting will be in May. Mr. Stevens asked that all participants check their calendars to identify dates that they would not be available for a meeting and to let him know those dates. The location for the next meeting was not established, and will be identified by NSF.

ATTACHMENT 1

List of Participants for ETV Source Water Protection Pilot Stakeholder Advisory Group Meeting February 10 - 11, 1999

Participant	Affiliation	Group
Williams Anderson*	American Academy of Environmental Engineers	Technology User
Stephen Aoyama	Indian Health Service	Technology user
Stephanie Barrett	ICF Kaiser	Project team
Jim Bell	Smith & Loveless	Technology vendor
Tom Bruursema	NSF International	Project team
Peter Casey *	National Small Flows Clearinghouse	Represents all groups
Tina Conley	US EPA	Project team
Paul Flynn	Bio-Microbics	Technology vendor
Ray Frederick	US EPA	Project team
Thomas Grizzard *	AWWA/Virginia Tech	Regulatory, technology user
Mark Gross *	Consortium for Decentralized Wastewater Technology and Management	Technology User
Tom Groves *	New England Interstate Water Pollution Control Commission	Regulatory

Brenda Guy	Delta Environmental Products	Technology vendor
Penelope Hansen	US EPA	Project team
Joyce Hudson	US EPA	Project team
Jay Knight	Knight Treatment Systems, Inc. (Kristar Distributor)	Technology vendor
Joseph Konczyk	Illinois EPA	Regulatory
Maureen Krudner *	US EPA Region II	Regulatory
Robert Mayer	American Manufacturing Company, Inc.	Technology vendor
Daniel Markowitz *	Water Environment Federation / Malcolm Pirnie	Regulatory, technology user
Kevin McCray *	National Ground Water Association	Technology user
Dexter Meadows	USDA - US Forest Service	Technology user
Ken Neu	Environmental/Health Products & Service	Technology vendor
Richard Otis *	Ayers Associates	Technology user
Mary Paist	Limno-Tech	Technology user
Rich Piluk	Anne Arundel Co. Health Department	Regulatory
Luke Robitaille	Premier Tech Ltd.	Technology vendor
John Schenk	NSF International	Project team
Brendan Shane *	ASDWA	Regulatory
Kevin Sherman *	National Onsite Wastewater Recycling Association / Florida Dept. of Health & Rehabilitative Services	Regulatory, technology vendors, technology users

Tony Smithson *	National Environmental Health Association / Lake Co. (IL) Health Department	Regulatory
Tom Stevens	NSF International	Project team
Catherine Pieper Stevenson	Maryland Environmental Services	Technology User
Tony Tafuri	US EPA	Project team
John Trax *	National Rural Water Association	Technology user
Charles VanDerlyn	US EPA	Project team
C. Vipulanandan	University of Houston / CIGMAT	Testing laboratory

* Indicates Stakeholder Advisory Group members.

ATTACHMENT 2

Decentralized Wastewater Treatment Needs

STEP 1: Identification of Applications

Domestic

Commercial/institutional

Industrial

Agricultural/animal waste

STEP 2: Identification of Categories

<u>Domestic Applications</u>

Disinfection/pathogen reduction	Organic reduction
Pollution prevention/water conservation devices	Nutrient reduction
Solids separation	Dispersal rehabilitation

Commercial/Institutional Applications

Disinfection/pathogen reduction	Metals
Pollution prevention/water conservation devices	VOCs
Solids separation	Fats, oils, grease (FOG)
Organic reduction	Hydrocarbons

Nutrient reduction	Bio-toxins
Dispersal rehabilitation	pH
Industrial	
Disinfection/pathogen reduction	Metals
Pollution prevention/water conservation devices	VOCs
Solids separation	FOG
Organic reduction	Hydrocarbons
Nutrient reduction	Bio-toxins
Dispersal rehabilitation	pH
Mining waste	Membrane technologies
Deicer recovery/recycle	
Agricultural / Animal Waste	
Disinfection / pathogen reduction	Nutrient reduction
Solids separation	FOG
Organic reduction	pH
Confined animal feed operations	Milk house waste
Unconfined (feed lot) animal feed operations	

ATTACHMENT 3

Considerations for Prioritizing Technologies

- Positive environmental impact
- Demonstrated need for technology
- Test protocol is "do-able":
    - Protocol exists
    - Complexity of protocol
    - Test cost vs. Equipment cost
- Testing completed within pilot period